

Urinary Incontinence among Male Veterans Receiving Care in Primary Care Clinics

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Background: Male urinary incontinence is not a well-investigated subject.

Objective: To determine the prevalence and consequences of incontinence in men.

Design: Cross-sectional survey.

Setting: 3 primary care clinics in a Kentucky Veterans Affairs facility.

Patients: 840 men with a mean age of 59.8 years (range, 25 to 93 years).

Measurements: Written survey on patient demographic information and continence, including the Incontinence Impact Questionnaire.

Results: Among all study patients, 32.3% reported incontinence within the past 12 months and 13.8% (43% of those who were incontinent) reported at least weekly episodes. Age did not correlate with frequency or amount of urine loss. Frequency correlated with emotional health, social relationships, physical activity, and travel. Greater amounts of lost urine had a stronger effect on emotional health, social relationships, and travel. Among men with incontinence, only 32% had discussed incontinence with their medical provider but 75% desired evaluation and treatment.

Conclusions: Urinary incontinence is common among male veterans and affects all age groups. Although incontinence often has unfavorable consequences on quality of life and although men with incontinence desired treatment, they seldom discussed the problem with medical providers. Systematic screening of men for urinary incontinence may be necessary.

Urinary incontinence, an important health concern that affects more than 13 million adults (1), is underreported (2–5) despite substantial effects on financial, social, emotional, and general well-being (1, 6–8). Accurate prevalence data are vital to guide clinical practice, develop policies, prioritize research, and allocate resources (9), but reported prevalence varies markedly (1, 3, 10, 11). Incontinence in men is understudied (5, 12). Its prevalence is estimated to be half that in women (1, 3, 5, 9). Few large community studies have examined men exclusively (9). We conducted this study of male veterans in a primary care setting to determine the prevalence and consequences of urinary incontinence in men.

Methods

An interviewer approached male patients in the waiting room at three ambulatory primary care clinics within the Louisville, Kentucky, Veterans Affairs Medical Center and inquired about each patient's willingness to participate in a research study on bladder function. Consenting participants completed an anonymous, written survey without interviewer assistance. The interviewer recorded age, ethnicity, and reason for refusal for patients who declined to participate. Staffing considerations precluded canvassing every clinic session during the study. During a 14-week period, we randomly selected morning (8:30 a.m. to 12:00 noon) and afternoon (1:00 p.m. to 4:30 p.m.) clinics and approached all patients seen during selected clinic sessions.

The survey (Appendix) addressed basic demographic information, previous genitourinary surgery, common bladder medications, continence status (by using questions adapted from Lagace and coworkers [4]), the number and frequency of episodes of incontinence, discussions held with a medical provider, interest in treatment, and quality of life (the Incontinence Impact Questionnaire [IIQ], which comprises 30 questions in four subscales) (13).

We defined "current urinary incontinence" as urine loss in the past 12 months (4) and defined severity by how often and in what amount incontinence occurred. Usable surveys were defined by whether the participant answered the question about current incontinence. Prevalence was assessed as the percentage of participants who had current

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Table 1. Selected Characteristics of the Study Sample

Characteristic	Patients	Patients with Current Urinary Incontinence*	Responses
	<i>n</i>	<i>n</i> (%)	<i>n</i>
Ethnicity			
White	660	211 (32.0)	—
African American	133	44 (33.1)	—
Other	11	4 (36.4)	—
Prostate cancer	23	10 (43.5)	730
Prostate surgery	58	27 (46.6)	645
Bladder surgery	24	14 (58.3)	637
Diuretics	208	74 (35.6)	778
Antispasmodic agents	15	9 (60.0)	750
Prostate active agents	63	24 (38.1)	755

* "Current urinary incontinence" refers to that occurring within the past 12 months.

incontinence. The Student *t*-test was used to examine age differences between participants and nonparticipants. The Wilcoxon–Mann–Whitney test was used to examine the relation between age and prevalence. The Jonckheere–Terpstra test, using exact calculations with rows and columns considered as ordered, assisted in analyzing relations between 1) age and amount of urine loss and 2) age and frequency of urine loss. Odds ratios (ORs) were used to examine relations between incontinence and potential variables (prostate cancer, surgery, and medications). The Spearman rank order correlation coefficient was calculated to examine the relation between the frequency and amount of incontinence and their effect on subscales of the IIQ. Most statistical analysis was performed by using StatXact, version 4 (Cytel Software, Cambridge, Massachusetts); ORs were determined by using SPSS for Windows, version 9.0 (SPSS, Inc., Chicago, Illinois).

Results

Among the 991 men who were approached, the mean age was 60.7 years of age (range, 25 to 93 years); 840 men (85%) gave consent. Nonparti-

cipants were older (65.6 compared with 59.8 years; $t = 5.57$; $P < 0.001$) and more likely to be African American (76% of nonparticipants compared with 16.4% of participants). The study sample consisted of 809 patients with usable surveys.

Table 1 presents patient characteristics, and **Table 2** presents data on incontinence. Of the entire study group, 32.3% reported incontinence within the past 12 months; incontinence was highest among 61- to 70-year-old men and lowest among the oldest patients. Loss of bladder control that occurred at least weekly was reported by 13.8% of study patients (43% of those who were incontinent), and 3.0% of study patients reported severe loss of control—that is, wetting outer clothing or the floor (9.1% of those with incontinence).

Prevalence of current incontinence was not significantly related to age ($P > 0.2$). Because nonparticipants were older, a sensitivity analysis was done. Prevalence was significantly related to age when nonparticipants were assumed to be incontinent ($P = 0.004$) but not when they were assumed to be continent ($P > 0.2$). As shown in **Table 2**, neither the amount nor frequency of urine loss was significantly related to age.

Variables that increased the risk for incontinence included previous prostate surgery (OR, 2.05 [95% CI, 1.15 to 3.66]), bladder surgery (OR, 3.29 [CI, 1.34 to 8.14]), and use of antispasmodic agents (OR, 3.11 [CI, 1.00 to 9.96]). No significant effect was found for prostate cancer (OR, 1.63 [CI, 0.65 to 4.03]), diuretics (OR, 1.20 [CI, 0.84 to 1.69]), or prostate active agents (OR, 1.30 [CI, 0.74 to 2.29]).

Small but significant correlations were found for frequency of incontinence and all subscales of the IIQ: emotional health (mean, 7.64 ± 6.72) ($r = 0.24$ [CI, 0.11 to 0.37]; $P < 0.001$), social relationships (mean, 7.10 ± 7.59) ($r = 0.26$ [CI, 0.13 to 0.38]; $P < 0.001$), physical activity (mean, 4.41 ± 4.72) ($r = 0.21$ [CI, 0.08 to 0.33]; $P = 0.001$), and travel (mean,

Table 2. Prevalence and Severity of Current Urinary Incontinence, by Age Group*

Variable	Total Study Sample	Age Group†						<i>P</i> Value
		≤ 40 y	41–50 y	51–60 y	61–70 y	71–80 y	>80 y	
Total, <i>n</i>	809	67	165	137	237	178	25	
Current incontinence, <i>n</i> (%)	261 (32.3)	17 (25.4)	51 (30.9)	43 (31.4)	86 (36.3)	59 (33.2)	5 (20.0)	>0.2
Amount of urine loss, <i>n</i> (%)								
Few drops	158 (19.5)	9 (13.4)	23 (13.9)	29 (21.2)	58 (24.5)	38 (21.3)	1 (4.0)	
Wet my underwear	63 (7.8)	6 (9.0)	18 (10.9)	11 (8.0)	15 (6.3)	10 (5.6)	3 (12.0)	
Wet outer clothing	18 (2.2)	2 (3.0)	7 (4.2)	1 (0.7)	5 (2.1)	3 (1.7)	0 (0)	
Wet the floor	6 (0.7)	0 (0)	0 (0)	0 (0)	3 (1.3)	2 (1.1)	1 (4.0)	0.086
How often urine loss occurs, <i>n</i> (%)								
<1/mo	53 (6.6)	8 (11.9)	10 (6.1)	9 (6.6)	18 (7.6)	8 (4.5)	0 (0)	
About 1/mo	38 (4.7)	1 (1.5)	8 (4.8)	7 (5.1)	14 (5.9)	6 (3.4)	2 (8.0)	
<1/wk	27 (3.3)	1 (1.5)	7 (4.2)	4 (2.9)	9 (3.8)	5 (2.8)	1 (4.0)	
About 1/wk	55 (6.8)	1 (1.5)	12 (7.3)	11 (8.0)	13 (5.5)	17 (9.6)	1 (4.0)	
Almost every day	57 (7.0)	6 (9.0)	8 (4.8)	6 (4.4)	21 (8.9)	15 (8.4)	1 (4.0)	0.063

* "Current urinary incontinence" refers to that occurring within the past 12 months.

† Numbers and percentages in columns may be less than the total number because of incomplete responses.

5.09 ± 5.10) ($r = 0.18$ [CI, 0.05 to 0.31]; $P = 0.004$). A greater amount of urine loss was associated with a stronger effect on emotional health ($r = 0.25$ [CI, 0.12 to 0.37]; $P < 0.001$), social relationships ($r = 0.19$ [CI, 0.07 to 0.31]; $P = 0.003$), and travel ($r = 0.21$ [CI, 0.09 to 0.33]; $P < 0.001$), but not physical activity ($r = 0.11$ [CI, -0.01 to 0.24]; $P = 0.074$).

Within the past year, only 32% of patients with current urinary incontinence had discussed the problem with their medical provider. However, 75% of these men expressed interest in evaluation and treatment.

Discussion

Our study has three main findings. First, a high rate of urinary incontinence exists among community-living men who visit Veterans Affairs primary care clinics. Second, advanced incontinence significantly affects quality of life. Third, patients infrequently discuss incontinence with medical providers, despite interest in evaluation.

The 32.3% prevalence of incontinence is among the highest reported for ambulatory men, and this percentage is consistent with the range of prevalence reported elsewhere (1, 3, 9, 11, 14–17). Prevalence in population-based studies ranges from 11% to 34% for older men and from 3% to 5% for younger men (9). Through a postal survey, Thomas and colleagues (14) noted rates of 1.6% for men aged 15 to 64 years and 6.9% for men older than 64 years of age. Roberts and coworkers (15) recently reported a 24.3% prevalence for men older than 50 years of age. Armstrong and Ferguson (16), studying health care resources, reported a 5% prevalence in ambulatory Veterans Affairs clinics; however, the study was not population based, and the methods involved a survey of health care personnel. Wetle and colleagues (17) found that 34% of men older than 65 years of age had “difficulty holding urine.” These variations are probably caused by underreporting, different survey methods, differences in phrasing and definition of incontinence, and the absence of objective assessments of incontinence (5, 9).

Like Lagace and coworkers (4), we sought to determine the prevalence of urinary incontinence among patients visiting physicians. Our overall prevalence among men is higher (32.3% compared with 11%), a finding that may be related to the setting of a veterans’ facility rather than community medical offices, our larger number of men, chance, or unidentified differences in general medical conditions. As expected, a higher risk for incontinence was found with previous genitourinary tract surgery. Overall, however, such procedures were infrequent in our population.

Perhaps the most interesting result of our survey

is that few men had recently discussed incontinence with a medical provider, despite interest in treatment. Incontinent persons often self-treat with absorbent materials without seeking medical evaluation (5). Veterans’ facilities should develop strategies to better screen, evaluate, and treat this population, which may have a high prevalence of incontinence.

The impact of urinary incontinence on quality of life is striking. Few studies have evaluated the consequences of incontinence in men. After radical prostatectomy, incontinence has been shown to limit physical activities (18), whereas the longer duration of incontinence is related to practical inconveniences (19). Effects on emotional well-being and activity were the greatest concern in a recent report of older men and women with urge incontinence (6). Although statistically significant, our correlation coefficients were small and emphasize the need for further investigation of this important topic.

Our study has several limitations. First, the recruitment method may have preferentially selected men with urologic problems, and this may explain why the prevalence of incontinence was greater than that found in previous studies. Second, participants may have misinterpreted the survey questions, reported postvoid dribbling or other urinary tract symptoms, or misinterpreted the term “incontinence.” The survey questions were similar to those used by other authors (3, 4, 7), but caution must be exercised in extending results to other populations. Third, the circumstances of incontinence were not explored, comorbid conditions and functional status were not assessed, and we did not attempt to verify the self-reports. We cannot determine the types of incontinence, and given that incontinence may be a dynamic condition, it is possible that reversible incontinence may be included (20). Fourth, we adapted a quality-of-life instrument from a study of women (13). Fifth, not all questions were answered by participants, which could affect the percentages reported. Finally, our inability to find an association between age and incontinence may result from the smaller percentage of clinic visits made by men older than 80 years of age to our facility (only 6% of clinic visits in 1997). Alternatively, as suggested by the sensitivity analysis, nonparticipants, who were predominantly older African-Americans, may have declined participation because of high rates of incontinence. Although this is unlikely, it is an important issue for future studies (12).

We conclude that urine leakage is common among men attending Veterans Affairs ambulatory medicine clinics and that they infrequently tell their medical providers about this symptom. Because men seem to be interested in evaluation and treatment, screening may be warranted to determine whether detection and intervention improve quality of life.

Appendix. Veterans Bladder Function Survey

1. Your Age
2. Your Gender: Male Female
3. Your Race: White African-American Asian-American Other _____
4. As an adult, have you **ever** lost urine when you were not able to get to a toilet in time?
Yes No
5. As an adult, have you **ever** lost urine when you were asleep?
Yes No
6. As an adult, have you **ever** lost urine when coughing or sneezing?
Yes No
7. As an adult, have you **ever** lost urine without meaning to at any other time?
Yes No
8. Have you **ever** had surgery to correct or reduce urine leakage?
Yes No
What surgery? _____
9. Have you **ever** had any type of bladder surgery?
Yes No
10. Part one: **Men Only** Have you had any prostate surgery? Yes No
Do you have prostate cancer? Yes No
Part Two: **Women Only** Did you have urine loss during pregnancy? Yes No
11. How old were you when you first had urine loss? (Circle **one**)
Never had! Under 30 30 to 49 50 to 69 70 or over
12. Have you had any urine loss **in the last 12 months**?
Yes No
13. How often **during the last 12 months** have you leaked urine or lost control before you can get to a toilet?
Almost every day About once a week Less than once a week
About once a month Less than once a month Does not apply
14. When you lose urine, how much **usually** leaks?
A few drops each time Wet my underwear (pad gets wet) Wet my outer clothing (soak pad)
Enough to wet the floor Does not apply
15. How often do you need to wear a pad?
Always Sometimes Never
16. Have you **EVER** told your **primary** care doctor/provider about having urine loss?
Yes No
17. **In the last 12 months**, have you discussed your urine loss with your primary care doctor/provider?
Yes No
18. If you have NOT told your primary care doctor/provider, would you have tests done and treatment if they would help you have less urine loss?
Yes No
19. Are you taking ANY of the following medicines?
 - Water pills (like Lasix or HCTZ*) Yes No
 - Bladder spasm pills (to keep from leaking urine) Yes No
 - Prostate pills (Cardura, Hytrin, Proscar) Yes No

The questions below refer to areas in your life which may have been influenced by any urine leakage you may have. Circle the number that best describes how your activities, relationships, and feelings are affected by urine leakage. [Data from reference 13.]

0 = Not at All 1 = Slightly 2 = Moderately 3 = Greatly

20. Ability to do household chores (cooking, cleaning, laundry)	0	1	2	3
21. Ability to do usual maintenance or repair work in the home, yard	0	1	2	3
22. Shopping activities	0	1	2	3
23. Hobbies and pastime activities	0	1	2	3
24. Physical recreation (walking, swimming, other exercise)	0	1	2	3
25. Entertainment activities (movies, concerts, etc.)	0	1	2	3
26. Ability to travel by car or bus <u>less</u> than 30 minutes from home	0	1	2	3
27. Ability to travel by car or bus <u>more</u> than 30 minutes from home	0	1	2	3
28. Going to places if you are not sure about available restrooms	0	1	2	3
29. Going on vacation	0	1	2	3
30. Church or temple attendance	0	1	2	3
31. Volunteer activities	0	1	2	3
32. Employment (work) outside the home	0	1	2	3
33. Having friends visit you in your home	0	1	2	3
34. Participating in social activities outside your home	0	1	2	3
35. Relationships with friends	0	1	2	3
36. Relationships with family	0	1	2	3
37. Ability to have sexual relations	0	1	2	3
38. The way that you dress	0	1	2	3
39. Your emotional health	0	1	2	3
40. Your physical health	0	1	2	3
41. Your sleep	0	1	2	3
42. Does fear of odor restrict your activities?	0	1	2	3
43. Does fear of embarrassment restrict your activities?	0	1	2	3
44. Does this problem cause you to feel nervous or anxious?	0	1	2	3
45. Does this problem cause you to feel fear?	0	1	2	3
46. Does this problem cause you to feel frustration?	0	1	2	3
47. Does this problem cause you to feel anger?	0	1	2	3
48. Does this problem cause you to feel depressed?	0	1	2	3
49. Does this problem cause you to feel embarrassment?	0	1	2	3

* HCTZ = hydrochlorothiazide.

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